Geert Vanpaemel
Katholieke Universiteit Leuven and HU Brussel (Belgium)
geert.vanpaemel@wet.kuleuven.be

Catholic propaganda and public science. The *Société Scientifique de Bruxelles* and the popularization of Darwinism.

In her well-known essay on the genealogy of the increasing gap between science and the public –subsequently more fully developed in a book– Bernadette Bensaude-Vincent has convincingly argued that the growth op popularization of science in the nineteenth and twentieth century can be understood (if viewed from the standpoint of the public) as a process of "gradual deprivation of knowledge affecting the large majority of citizens."[1] Public knowledge was, she continued, denied all relevance – while a minority of scientists took hold of the monopoly of legitimate knowledge. This process was not simply an accidental consequence of the increasing complexity of modern science, which necessitated the intermediary of popularizers to help the public; it was an important step in the creation of a social division between scientists and the lay public and it helped to reinforce the identity of the scientific professional researcher.

Considering the popularization of knowledge from this angle, popular science ceases to be merely a derivative of scientists' efforts to enlighten the public; rather, it acquires a new meaning as an instrument serving the ends of the popularizers – not the public. Of course, this should not be taken to diminish the obvious goals and effects of the popularization of science: spreading scientific information, promoting general interest in science and helping a lay public to understand and to some extent participate in the scientific debates. But to the historian, it is worth while to explore secondary meanings in order to unearth the hidden tensions and long term developments.

In this short paper I will focus on one peculiar initiative of popularization, which can be seen as an attempt to make use of popular science, not in order to reinforce the professional identity of science, but to create an intellectual community, which could be controlled and mobilized, and which could contribute to political action if necessary. The case is probably even more interesting, as it was not a reflection of real scientific debates going on, but of a debate which was primarily situated within the public sphere of science. This raises the question what exactly was being popularized?

The *Société Scientifique* was created on 18 November 1875 in Brussels by a group of Belgian Catholic scientists, mainly professors of the Belgian universities. Its origins went back some years earlier, when in the wake of a growing Catholic self-awareness in the country, several initiatives had taken root to discuss science from a Catholic perspective.[2] The main instigator of this movement was the Leuven professor Alphonse Proost (1847-1931), a biologist who specialized in agricultural science.[3] Proost was an amazing personality, with a broad interest in scientific but also social questions, in particular with regard to the improvement of public education. Proost was convinced that science was a necessary element

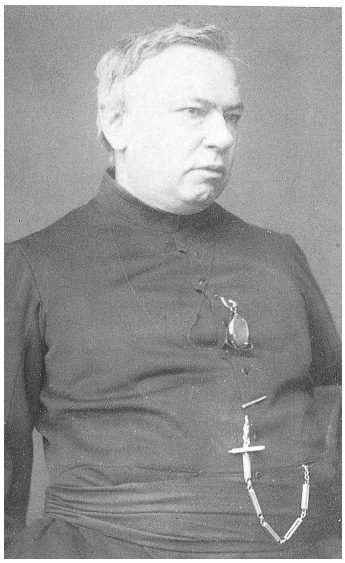
[1] Bernadette Bensaude-Vincent, "A genealogy of the increasing gap between science and the public," *Public Understanding of Science* 10 (2001) 99-113. Quotation on p. 107. Id., *La science contre l'opinion. Histoire d'un divorce* (Paris: Le Seuil, 2003).

[2] On the Société, see [P. Mansion] *Société scientifique de Bruxelles* (Paris, 1901). See also M.J. Nye, "The moral freedom of man and the determinism of Nature: The Catholic synthesis of science and history in the *Revue des Questions Scientifiques*," *British Journal for the History of Science* 9 (1976) 274-292.

[3] K.J. Dams, *De triomf van de engel over het beest. Alphonse Proost (1847-1931) en de Belgische Ligue de l'Education Familiale* [The triumph of the angle over the beast. Alphonse Proost (1847-1931) and the Belgian Ligue de l'Education Familiale] (unpublished doctoral dissertation, Univ. Ghent 2006).

for anyone to understand the modern world. His successful actions in agriculture served him as a model and as a legitimization of his view of Catholic revival. He furthermore understood that in order to reach his goals, he had to find support not so much with the lower classes of society, but with the elites. Proost became an indefatigable popularizer and polemicist on science and education, but always on a quite intellectual level. In the early 1870's he proposed a plan to create an International League of religious scientists against materialism. The proposed League did not generate enough support, but Proost soon found other allies with whom he could collaborate to realize his plans.

In several Belgian cities Catholic students had organized informal discussion groups under the name "Cercles Cauchy", where scientific issues were being debated. These groups emphasized the importance of modern science to young Catholic intellectuals. This was particularly the case with the group in Leuven, where several university professors of the Catholic university in that town actively supported the initiative. The promotion of Catholic reflection on science needed, however, to be supplemented by original research. The ambition of Proost and his allies was not only to stimulate a Catholic view of science; they also wanted to create Catholic scientists who were able to contribute to science on the very edge of research. This model of Catholic science was strongly supported by the Belgian Jesuits, who in their own colleges formed a number of prominent scientists. Foremost among these Jesuits was Ignace Carbonnelle (1829-1889), a trained mathematician and physicist, who taught for some years in Jesuit colleges in Belgium and India. Carbonnelle was a prolific writer who was well aware of the importance of the press. Since his return to Europe in 1867, he was an active collaborator of the French Jesuit journal "Etudes religieuses", for which journal he wrote a major series of articles on thermodynamics.[4] He also wrote numerous book reviews and essays, among others on the question of Darwinism.



Ignace Carbonelle (1829-1889)

The efforts of Proost and Carbonnelle culminated in 1875 in a plan to create a Catholic association for the extension and diffusion of science. This met with some opposition, and in the end a society was founded with the simple and misleadingly neutral name *Société scientifique de Bruxelles*. The Society took as its motto "nulla umquam inter fidem et rationem vera dissensio esse potest" – there can never be any disagreement between faith and reason. Its aim was to promote the advancement of science in accordance with this motto. Members were expressly forbidden to attack, even courteously, Catholic religion or spiritualist philosophy. The Society rapidly became the focal point of Catholic scientific debates, a stronghold against the alleged rise of scientific materialism. At the start the Society counted 453 members, a number which would in a few years grow to over 700. Carbonnelle had traveled through France to enlist the support of French Catholics. Most notably among them were the geologist Albert August de Lapparent, professor at the Catholic University of Paris, and the physicist Pierre Duhem.

The Society was not only scientific by name. It indeed organized scientific conferences, where new research was presented in five sections: mathematics (including astronomy and engineering), physics and chemistry, natural sciences, medicine and, finally, economics and

[4] Geert Vanpaemel, "Ignace Carbonnelle S.J. (1829-1889): Catholic Science and Atomic Physics," in: Änne Bäumer and Manfred Büttner (eds.), *Science and Religon/Wissenschaft und Religion*. Proccedings of the Symposium of the XVIIIth International Congress of History of Science at Hamburg-Munich (Bochum 1989) 134-141.

agriculture. Papers presented were published in the *Annales* of the Society. Prize questions were put out (although there were very few answers), and even financial support was given to young, aspiring scientists. The Society also took an active part in the organization of the International Catholic Scientific Congresses, of which the third one in 1894 was held in Brussels. In fact, in spite of its religious profile, the Society acted very much like any other nineteenth century scientific society.

But apart from scientific work, the Society was most prominent because of its efforts at vulgarization. For this, it created a special journal, which still exists today, the *Revue des Questions Scientifiques*. The *Revue* was the instrument with which to reach and to act upon the general public. Yet, it was popularization at a very high level. There were three main sections in the *Revue*. The first section featured full length articles written by specialists. The range of topics was very wide, covering all the sciences. The first volume contained e.g. a memoir on the construction of a submarine train connecting France and England but also a long polemical article against John William Draper's book *History of the Conflict between Religion and Science* (1874), an article on Cosmology of Ancient Greece, a discussion of consanguine marriages, an analysis of the brain theory of the French neurologist Jules Bernard Luys (1828–1897), a microscopic analysis of mineral cavities in rocks, a discussion of paleontology and Darwinism etc. The second section contained book reviews, while the third section (set in small characters) presented a brief summary of important articles found in the scientific literature at large. Every year two massive volumes were published, totaling an amazing 700 pages of popularization.

From a modern point of view, these attempts at popularization seem rather odd. Instead of short, readable and accessible texts, the authors of the *Revue* wrote long, meticulous, tiring essays. There were no pictures, and hardly any subtitles. Whether the articles were really read by the intended public is of course difficult to ascertain. The editors of the *Revue* were annoyed at the lack of reaction from the materialist scientists, who probably simply didn't bother to read the *Revue*.[5] Also the number of subscriptions started to fall after the first ten years. The Society could barely survive and had financial difficulties. As the *Revue* was its main reason of existence, it was decided at the beginning of the twentieth century to add pictures to the texts. By that time also, the more doctrinal writings were being replaced by more straightforward articles on scientific discoveries.

Obviously, the diversity of texts was always directed towards a double goal: to present the reader with the most excellent examples of Catholic science and Catholic scientists, and to provide answers to the most pressing attacks on religion by materialist scientific doctrines.

Among these attacks, Darwinism was not perceived to be a very serious threat. There were more urgent battle fields. Most of all physiology was looked upon as a budding ground for materialist opinions, where even the higher phenomena of life were explained by mere reference to physical and chemical laws. Also the kinetic approach to thermodynamics and the associated mechanical atomism suggested a physical determinism which was incompatible with the existence of free will. Ignace Carbonnelle himself put these topics on the agenda by publishing a series of articles called "L'aveuglement scientifique." The articles were subsequently published in a two-volume book *Les Confins de la Science et de la Philosophie* (1881) [The Limits of Science and Philosophy].

Most prominently, the Society very early published extensively on the theory of evolution and Darwinism. In particular, public lectures presented at the *Société* often focused on Darwinism. Carbonnelle, Proost and others, such as the very popular *conférencier*, the Jesuit Victor Van Tricht, contributed several articles and book reviews on Darwinism. Surprisingly, none of these authors was directly involved in his own professional career with research

[5] [Mansion], note 2.

activities connected to Darwinism. Their voice was the voice of the philosopher or, more generally, of the intellectual, but not the voice of the scientist.

The views expounded in the *Revue* have been studied by other historians.[6] Its particular version of Darwinism was founded on the theories of Alfred Russell Wallace, St. George Mivart and the French naturalist Armand de Quatrefages, in which there was room for progressive evolution and hence for Christian Providence. In general, the Catholic authors of the *Revue* were indeed critical of Darwinism, but they agreed that there was not much in the theory that contradicted the doctrine of the Church, as the Church had no doctrine on many of the issues involved. Only one contributor, abbé Lecomte, firmly rejected Darwinism on doctrinal grounds.[7] As to the others, they criticized those (materialist) scientists who accepted the theory without any reservation and by doing so belied the true spirit of scientific inquiry. They were willing to compare Darwin to Copernicus, the astronomer who changed the direction of modern science although his theory was later improved upon by Kepler; but they were not willing to compare Darwin to Newton, who had established the true physical laws of the universe.

The Society was rather unique in bringing Darwinism to the fore of the popular debate in Belgium. Darwinism was indeed not a big issue on the Belgian scientific scene in the 1870's. As Raf De Bont has recently shown, professional scientists were rather reluctant to engage in any public debate. They accepted and incorporated Darwin's doctrine, but they kept their scientific work well separated from any contentious issue.[8] It is still unclear exactly how the public debate took form in Belgium. Apart from some newspaper articles, the real public debate didn't start off before the 1880's.[9] The first public defenders and polemicists of Darwinism in Belgium were the members of the *Société d'Anthropologie de Bruxelles*, founded in 1882, seven years after the *Société Scientifique*. In 1875, there was no urgent need to discuss the religious aspects of Darwinism. As French books were readily available in Belgian bookshops, the Belgian public must have been much aware of what was happening in France, but the articles written in the *Revue* were mostly written by Belgian scientists, with no particular reference to any French debates. So whence the emphasis on Darwinism?

It is interesting to note that the discussion that was envisaged by the *Revue* was not perceived by the participants as a particular difficult one. The authors did not feel pressed by external threats, nor were they on the defensive. They certainly did not attack Darwin as a scientist, but focused merely on some of his over-enthusiastic followers. The discussion was mostly framed in the guise of book reviews or indirect discussions of other scientists' work. The authors had no reason to feel uncomfortable with Darwinism, but at the same time it was a topic, which was perceived as a great moment in the history of science.[10] The real issue was not the truth of Darwinism, but the definition of science, the legitimization of the scientific

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[6] Harry W. Paul, *The edge of contingency. French catholic reaction to scientific change from Darwin to Duhem* (Gainesville, 1979). For a more general analysis of the reactions among Belgian scientists (including Catholics) to Darwinism, see Raf De Bont, *Darwins Kleinkinderen. De evolutieleer in België, 1865 – 1945* [Darwin's grandchildren. Evolution in Belgium 1865-1945] (Nijmegen, 2008).

[7] Alphonse-Joseph Lecomte, *Le darwinisme et l'origine de l'homme* (Brussels 1873); Id., *Le darwinisme et l'expression des émotions chez l'homme et chez les animaux* (Leuven 1881).

[8] Raf De Bont, "Rome and Theistic Evolutionism: The Hidden Strategies behind the 'Dorlodot Affair', 1920-1926," *Annals of Science* 62 (2005) 457-478.

[9] There was hardly a scientific debate. Most scientists kept aloof of the 'ideological' side of Darwinist controversies. Geert Vanpaemel, "De darwinistische revolutie," [The darwinist revolution] in: R. Halleux, J. Vandersmissen, A. Despy-Meyer, G. Vanpaemel (eds.), *Geschiedenis van de wetenschappen in België 1815-2000* (Tournai 2001) 257-268;

[10] On the revolutionary understanding of Darwinism in Belgium, see Geert Vanpaemel., "Van Copernicus tot Darwin. Historische (re)constructie van wetenschappelijke revoluties," [From Copernicus to Darwin. The historical (re)construction of scientific revolutions] in: C. Opsomer (ed.), *Copernicus en Galilei in de weten-schapsgeschiedenis van België* (Brussel, 1995) 63-78.

method, the criticism of positivism and materialism. Darwinism was an adequate hook with which to grasp the attention of the reader, without encountering too many technical details or boring material.

The message of the Catholic scientists was not successful. When liberals proposed more radical interpretations of evolution theory with less philosophical precautions, Darwinism was quickly appropriated by scientists who advocated a secular or anti-religious science. But during the first decades of the *Société,* this does not seem to have put any pressure on Catholic science in Belgium. On the contrary, the Darwinism put forward by the *Société Scientifique* provided a generation of Catholic scientists in Belgium with a common theme, which served for them as a legitimization for the strong link between science and religion, marking at the same time the boundary between Catholic and atheist or materialist approaches to science.

This may lead to the conclusion that the popularization articles of the *Revue des Question Scientifiques* were constitutive of the public image of science, both for Catholics and their opponents. The antagonism between science and religion, although not confined to the Darwinist perspective, was soon almost completely immersed in controversies over evolution. These controversies were not grounded in internal scientific debates, but evolved from their presentation to lay audiences. These popular presentations did not coincide with contemporary scientific debates as different actors, different themes and different fields of expertise were involved. Hence, the public image of science in its relationship to religion can be seen as a creation of popular science, which suggests that popular science should indeed be considered as a form of intellectual debate, distinct and to some extent even independent from institutionalized science.